

U.S. Patent Appl. No. 10/728,947- Mockel *et al.*
Attorney Docket No.: 021123-0306724

REMARKS

Preliminary Remarks

Reconsideration and allowance of the present application based on the following remarks are respectfully requested. Claims 24-26, 28, and 31-34 are currently pending and remain at issue in this application. This response is timely filed with a one-month extension of time.

On page 2 of the official action, the examiner requested that the applicants amend the priority information of the parent U.S. patent applications. The applicants have amended the specification on page 1 regarding the status of U.S. Patent Appl. No. 09/860,768 and U.S. Patent Appl. No. 09/455,779. Specifically, U.S. Patent Appl. No. 09/860,768 is now U.S. Patent No. 6,713,289, and U.S. Patent Appl. No. 09/455,779 is abandoned. The applicants respectfully submit that the objection to the specification regarding priority information of the parent U.S. patent applications has been overcome and should be withdrawn.

On page 2 of the official action, the examiner requested correction of the nomenclature for *Corynebacterium glutamicum* in the titles for Examples 1 and 3 on pages 11, line 26 and page 13, line 29, respectively. The applicants have amended the nomenclature for *Corynebacterium glutamicum* in the titles for Examples 1 and 3 to overcome the objection, and request withdrawal of the objection.

Amended claim 24 is directed to an isolated nucleic acid comprising a polynucleotide sequence selected from the group consisting of (a) a polynucleotide sequence SEQ ID NO: 1; (b) a polynucleotide sequence encoding a polypeptide sequence SEQ ID NO: 2; and (c) a nucleotide sequence complementary to (a) or (b). The applicants have added part (b) of claim 24 as the sequence encoding the enolase polypeptide sequence SEQ ID NO: 2 is supported throughout the specification. The applicants do not intend by these or any amendments to abandon subject matter of the claims as originally filed or later presented, and reserve the right to pursue such subject matter in continuing applications.

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Patentability Remarks

Rejection Pursuant to 35 U.S.C. §101

On page 3 of the official action, the examiner rejected claim 34 under 35 U.S.C. §101, for allegedly reading on non-statutory subject matter. Specifically, the examiner asserted that the claim is directed to a host cell, which could include a human.

Amended claim 34 is directed to an isolated host cell comprising the vector of claim 32. The applicants would like to thank the examiner for his suggestion regarding the phrase "isolated host cell." In view of the foregoing amendment, the applicants respectfully submit that the rejection of claim 34 under 35 U.S.C. §101 has been overcome, and should be withdrawn.

Rejection Pursuant to 35 U.S.C. §112, Second Paragraph

Claims 24 and 31

On pages 3-5 of the official action, the examiner rejected claims 24, 26, 29, 31 and 33 under 35 U.S.C. §112, second paragraph, for allegedly being indefinite. Specifically, the examiner alleged that the phrase "as set forth in SEQ ID NO: 1" or "as set forth in SEQ ID NO: 3" in either claims 24 or 31 was unclear. The examiner further asserted it was unclear whether the isolated nucleic acid was the actual polynucleotide sequence SEQ ID NO: 1 (or 3) or whether SEQ ID NO: 1 (or 3) is a representative sequence of the isolated nucleic acid. Similarly, with regard to the phrase "as set forth in SEQ ID NO: 4," it was unclear to the examiner whether the isolated nucleic acid encoding a polypeptide with the actual sequence SEQ ID NO: 4 in claim 31 was a polypeptide encoded by the amino acid sequence SEQ ID NO: 4 or whether SEQ ID NO: 4 is a representative amino acid sequence of the polypeptide.¹

As discussed below, the applicants have canceled claim 29 without prejudice. However, the applicants respectfully submit that the phrase "as set forth" is not indefinite. The phrase "as set forth in SEQ ID NO:" guides the reader to a specific SEQ ID NO and does not mean that the SEQ ID NO: is simply a representation of a number of different sequences.

¹ On page 4 of the official action, the full paragraphs describing the alleged indefinite phrases in claims 29 and 31 are confusing. In the paragraph describing claim 29, the applicants are assuming the examiner is referring to the amino acid sequence as set forth in SEQ ID NO: 2, not SEQ ID NO:3. In the paragraph describing claim 31, the applicants are assuming the examiner objected to both the phrases "as set forth in SEQ ID NO: 3" and "the polypeptide as set forth in SEQ ID NO: 4."

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Also, "as set forth in SEQ ID NO:" is a commonly used phrase in drafting claims directed to polynucleotide or polypeptide sequences or methods using these particular polynucleotides and polypeptides. The applicants submit that the primary examiner of this application, Dr. Rao Manjunath, has approved claim language stating "a nucleotide sequence as set forth in SEQ ID NO" and "a nucleotide sequence encoding a polypeptide as set forth in SEQ ID NO:" in U.S. Patent No. 6,953,677, which shares the same assignee as the instant application. Accordingly, the applicants disagree that the phrase "as set forth" is confusing or indefinite.

Nevertheless, solely to expedite prosecution, the applicants have amended the alleged indefinite phrases in claims 24 and 31 and adopted the suggested phrasing by the examiner. Accordingly, amended claims 24 and 31 contain the phrase "a polynucleotide sequence SEQ ID NO: 1" and/or "a polypeptide SEQ ID NO: 4." The applicants also submit that dependent claims 25, 26, 32, and 34 contain all the limitation of either claim 24 or 31. In view of the foregoing amendment and remarks, the applicants respectfully request that the rejection of claims 24-26, 31, 32, and 34 under 35 U.S.C. §112, second paragraph, for allegedly being indefinite, has been overcome and should be withdrawn.

Claim 26

On pages 3 and 4 of the official action, the examiner rejected claim 36 under 35 U.S.C. §112, second paragraph, for allegedly being indefinite. Specifically, the examiner alleged that the phrase "functionally neutral sense mutation" does not clearly state whether the sense mutations are referring to the codons in the polynucleotide sequence or to the enzyme activity whose functions are not affected by changes in the polynucleotide sequence.

Amended claim 26 is directed to an isolated nucleic acid according to claim 24, wherein said nucleotide sequence comprises one or more functionally neutral sense mutations wherein the changes in the polynucleotide sequence do not alter the encoded enolase polypeptide or its activity. Accordingly, the applicants submit that non-sense mutations are defined in amended claim 26 as those mutations in the codons that do not affect the overall encoded enzymatic structure or activity. In view of the foregoing amendment and remarks, the applicants respectfully request that the rejection of claim 26 under 35 U.S.C. §112, second paragraph, for allegedly being indefinite, has been overcome and should be withdrawn.

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Claim 33

The examiner also alleged that the phrase "the vector of claim 35" in claim 33 fails to point out the subject matter of the invention. Claim 33 has been amended the typographical error in claim 33 to correctly depend from amended claim 32. In view of the foregoing amendment and remarks, the applicants respectfully submit that the rejection of claim 33 under 35 U.S.C. §112, second paragraph, has been overcome, and should be withdrawn.

Rejection Pursuant to 35 U.S.C. §112, First Paragraph

On pages 5-8 of the official action, the examiner rejected claims 29 and 30 under 35 U.S.C. §112, first paragraph, for allegedly lacking enablement. Specifically, the examiner asserted that while the specification enables a polynucleotide with SEQ ID NO: 1 encoding a polypeptide with SEQ ID NO: 2 having enolase activity, it does not reasonably provide enablement for any polynucleotide encoding a polypeptide that has 90% or 95% amino acid sequence identity with SEQ ID NO: 2 with enolase activity.

Solely to expedite prosecution, and without prejudice to the applicants right to seek broader claims in a continuing application, the applicants have canceled claims 29 and 30 without prejudice. In view of the foregoing amendment, the applicants respectfully submit that the rejection of claims 29 and 30 under 35 U.S.C. §112, first paragraph, is moot, and should be withdrawn.

Rejection Pursuant to 35 U.S.C. §102(e)

On pages 8 and 9 of the specification, the examiner rejected claims 27, 29, 30, and 32-34 under 35 U.S.C. §102(e) as being anticipated by Pompejus *et al.*, U.S. 2004/0180408 (hereafter "Pompejus"). Specifically, the examiner alleged that Pompejus disclosed an isolated polynucleotide sequence that is 88.5% homologous to SEQ ID NO: 1 and encodes a polypeptide that has an amino acid sequence that is 99.7% identical to SEQ ID NO: 2. The examiner alleged Pompejus discloses the vector/host cells harboring the alleged anticipatory polynucleotide sequence. The examiner asserted that the polynucleotide sequence of Pompejus would encompass claim 27 directed to a fragment of SEQ ID NO: 1 encoding enolase activity, variant claims 29 and 30, and host/vector claims 32-34.

Solely to expedite prosecution, and without prejudice to seeking broader claims in a continuing application, the applicants have canceled claim 27 without prejudice. Similarly,

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as discussed above, claims 29 and 30 have been canceled without prejudice. Amended vector/host cell claims 32-34 no longer depend from either claims 27, 29, or 30. In view of the foregoing amendment, the applicants respectfully submit that the rejection of claims 27, 29, 30, and 32-34 under 35 U.S.C. §102(e) is moot, and should be withdrawn.


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CONCLUSION

In view of the foregoing, the claims are now believed to be in form of allowance, and such action is hereby solicited. If any point remains which the examiner feels may be best resolved through a personal or telephone interview, please do not hesitate to the undersigned at the telephone number below.

Respectfully submitted,

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